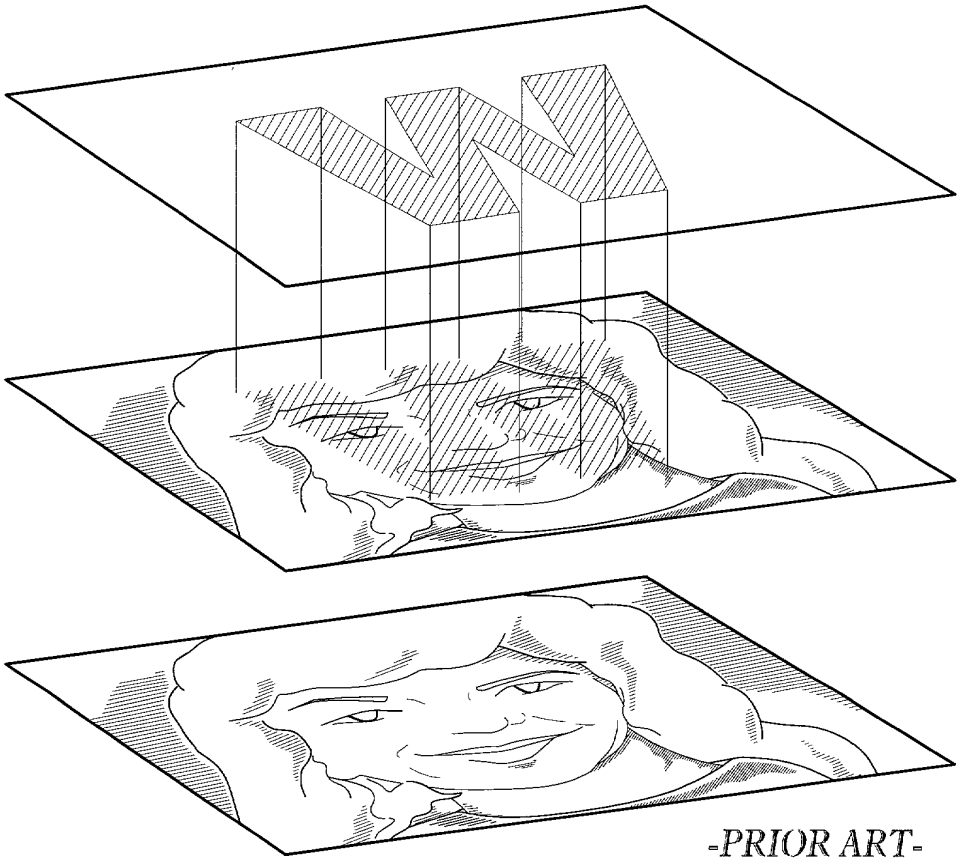

Fig. 1

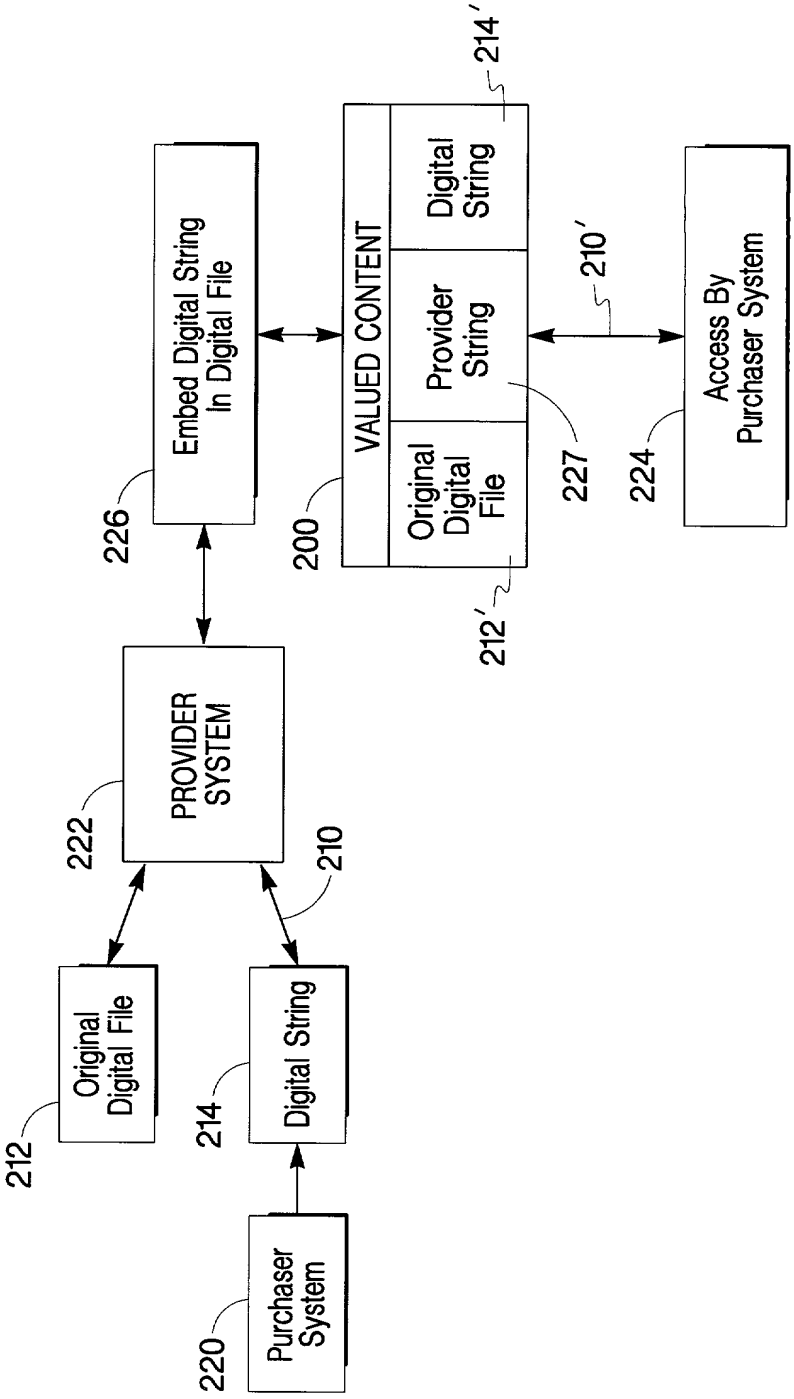
Original Digital File
212
Digital String
214
Purchaser System
220
PROVIDER SYSTEM
222
210
Embed Digital String In Digital File
226
VALUED CONTENT
200
Original Digital File
212'
Provider String
227
Digital String
214'
210'
Access By Purchaser System
224

Fig. 2

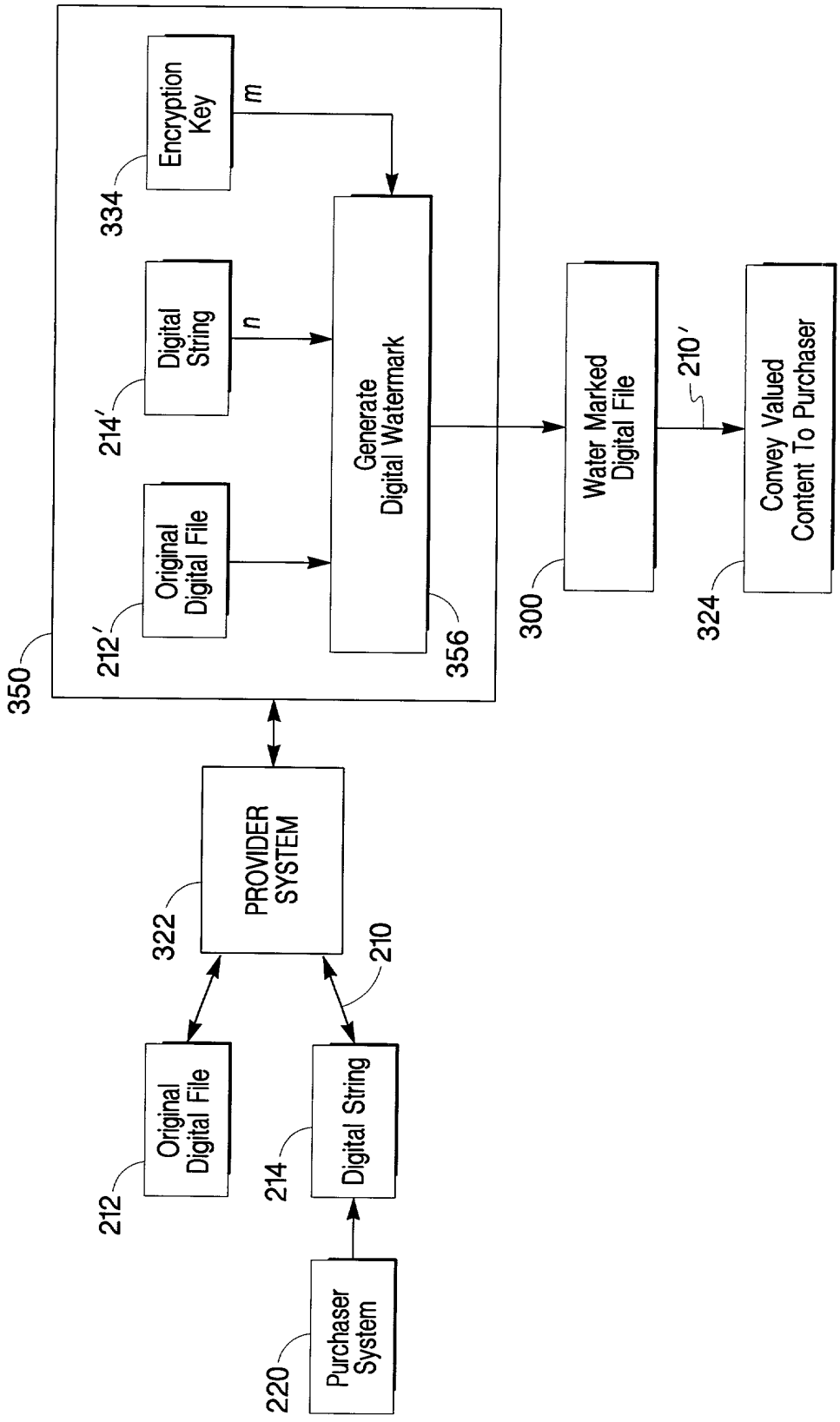
Encryption Key
m
334
Digital String
n
214'
Original Digital File
212'
Generate Digital Watermark
356
350
Water Marked Digital File
300
210'
Convey Valued Content To Purchaser
324
PROVIDER SYSTEM
322
210
Original Digital File
212
Digital String
214
Purchaser System
220

Fig. 3a

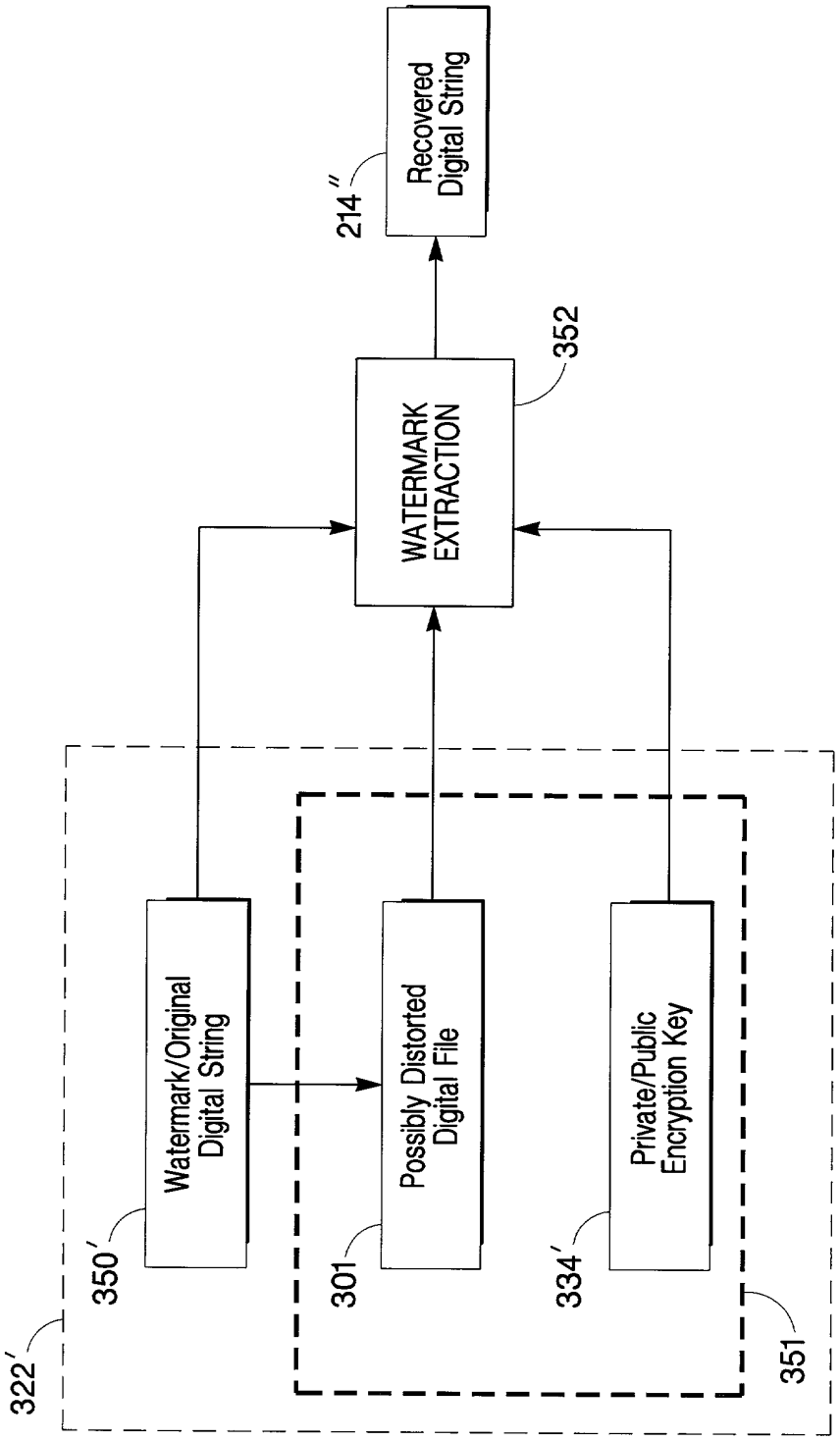
Recovered Digital String
214″
352
WATERMARK EXTRACTION
Watermark/Original Digital String
350′
Possibly Distorted Digital File
301
Private/Public Encryption Key
334′
322′
351

Fig. 3b

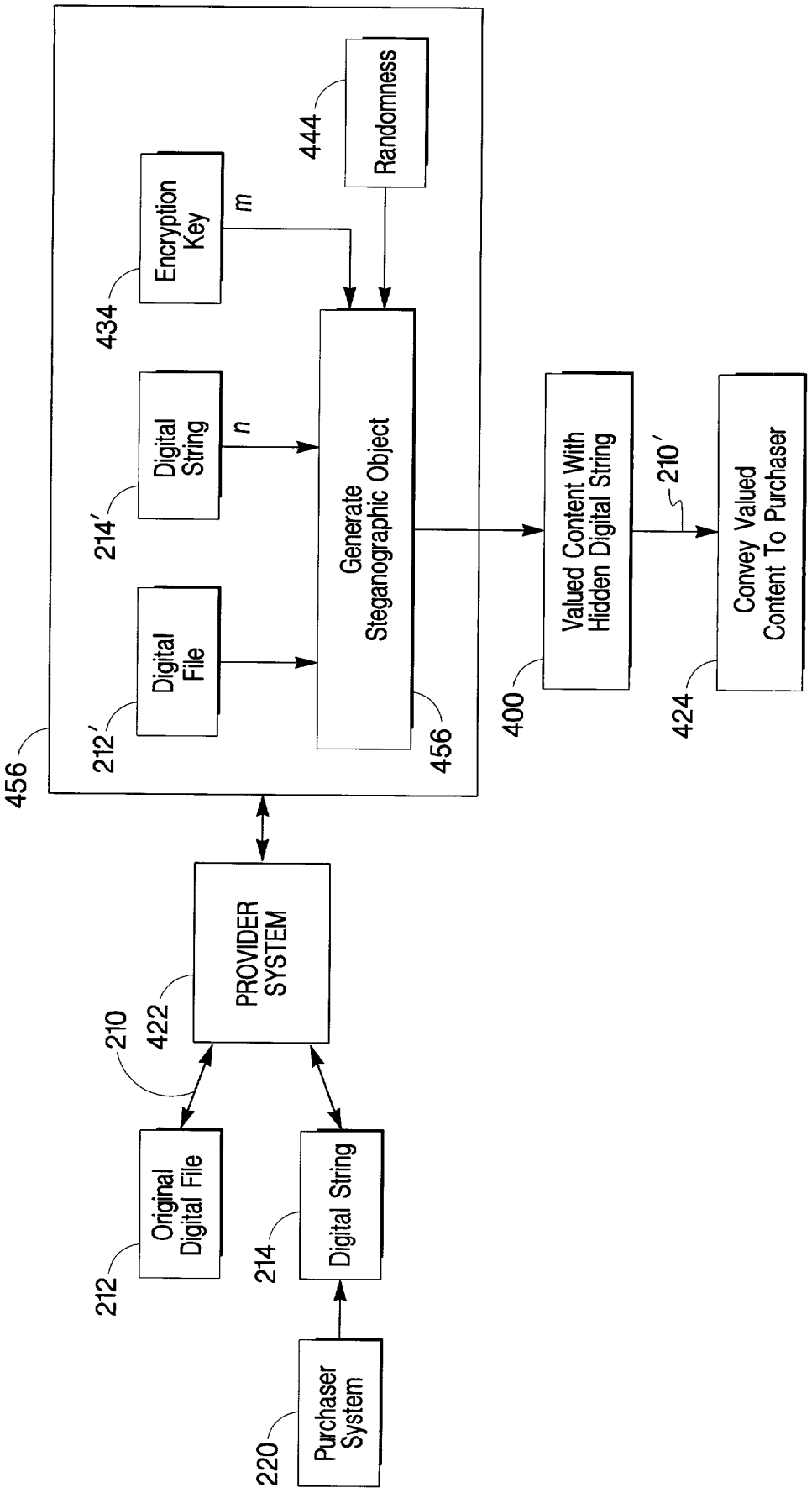
456
212'
Digital File
214'
Digital String
n
434
Encryption Key
m
444
Randomness
Generate Steganographic Object
456
400
Valued Content With Hidden Digital String
210'
424
Convey Valued Content To Purchaser
210
422
PROVIDER SYSTEM
212
Original Digital File
214
Digital String
220
Purchaser System

Fig. 4

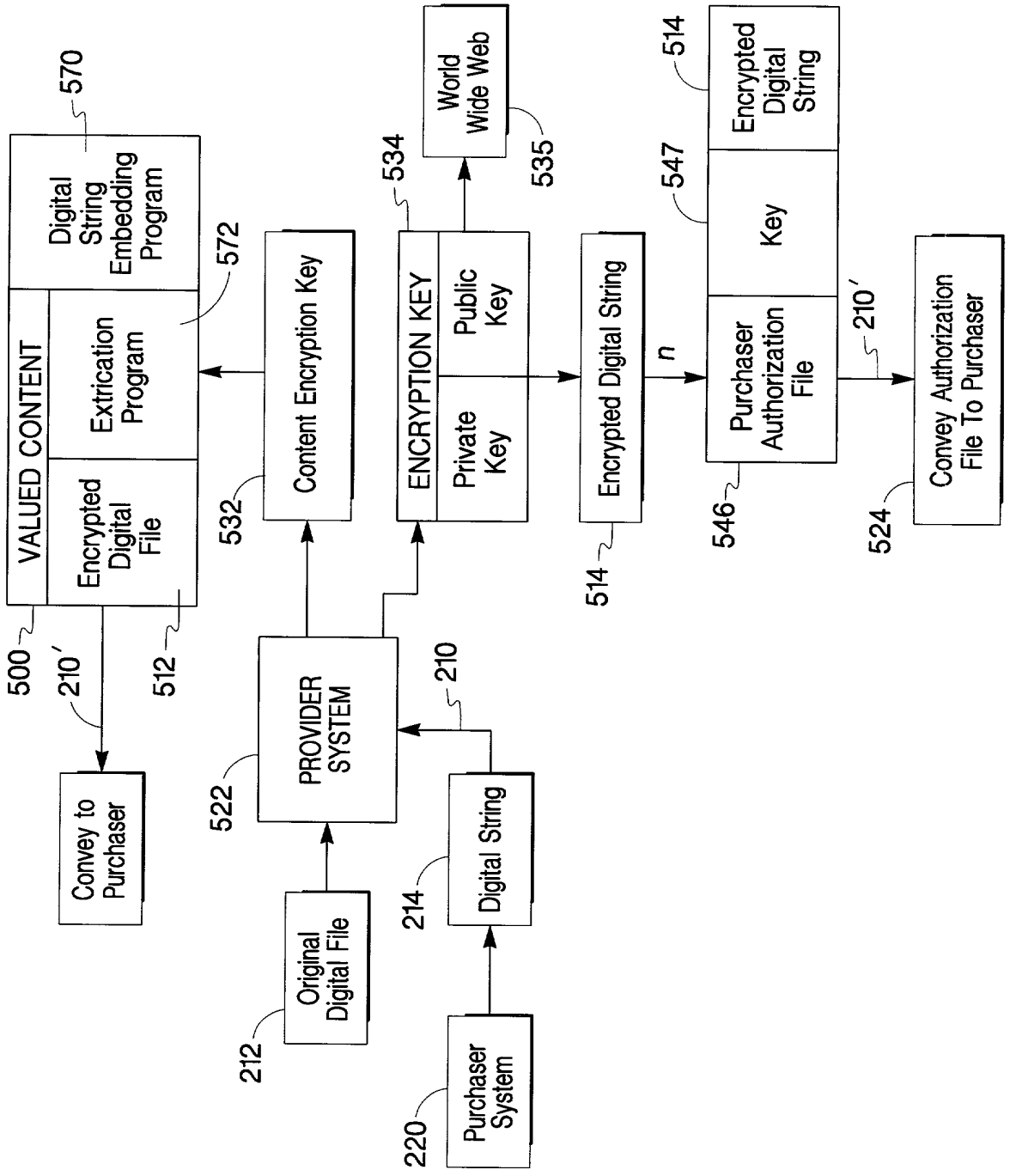
VALUED CONTENT
Encrypted Digital File
Extrication Program
Digital String Embedding Program
570
572
500
210'
512
Convey to Purchaser
PROVIDER SYSTEM
522
210
Content Encryption Key
532
ENCRYPTION KEY
Private Key
Public Key
534
World Wide Web
535
Original Digital File
212
Digital String
214
Purchaser System
220
Encrypted Digital String
514
n
Purchaser Authorization File
Key
547
Encrypted Digital String
514
546
210'
Convey Authorization File To Purchaser
524

Fig. 5

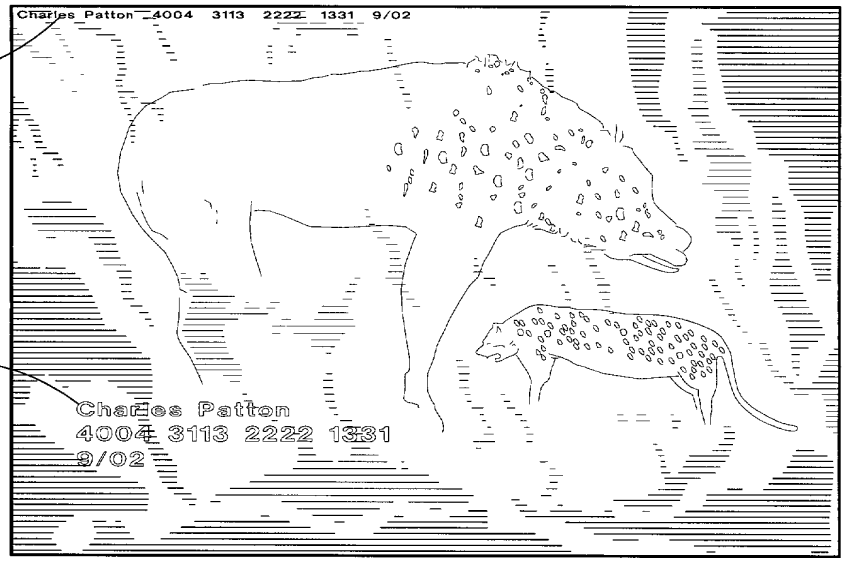
626
626'
Charles Patton 4004 3113 2222 1331 9/02
Charles Patton
4004 3113 2222 1331
9/02

Fig. 6A

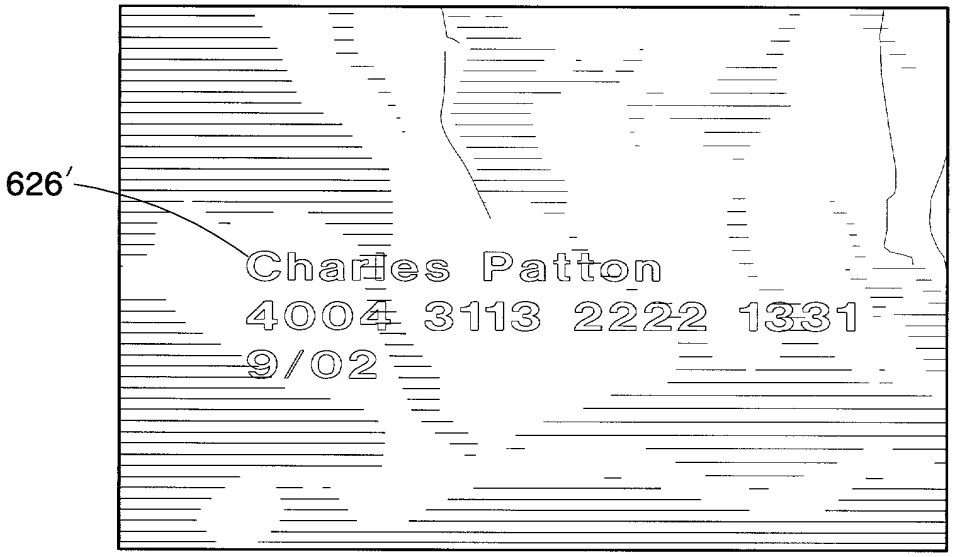
626'
Charles Patton
4004 3113 2222 1331
9/02

Fig. 6B

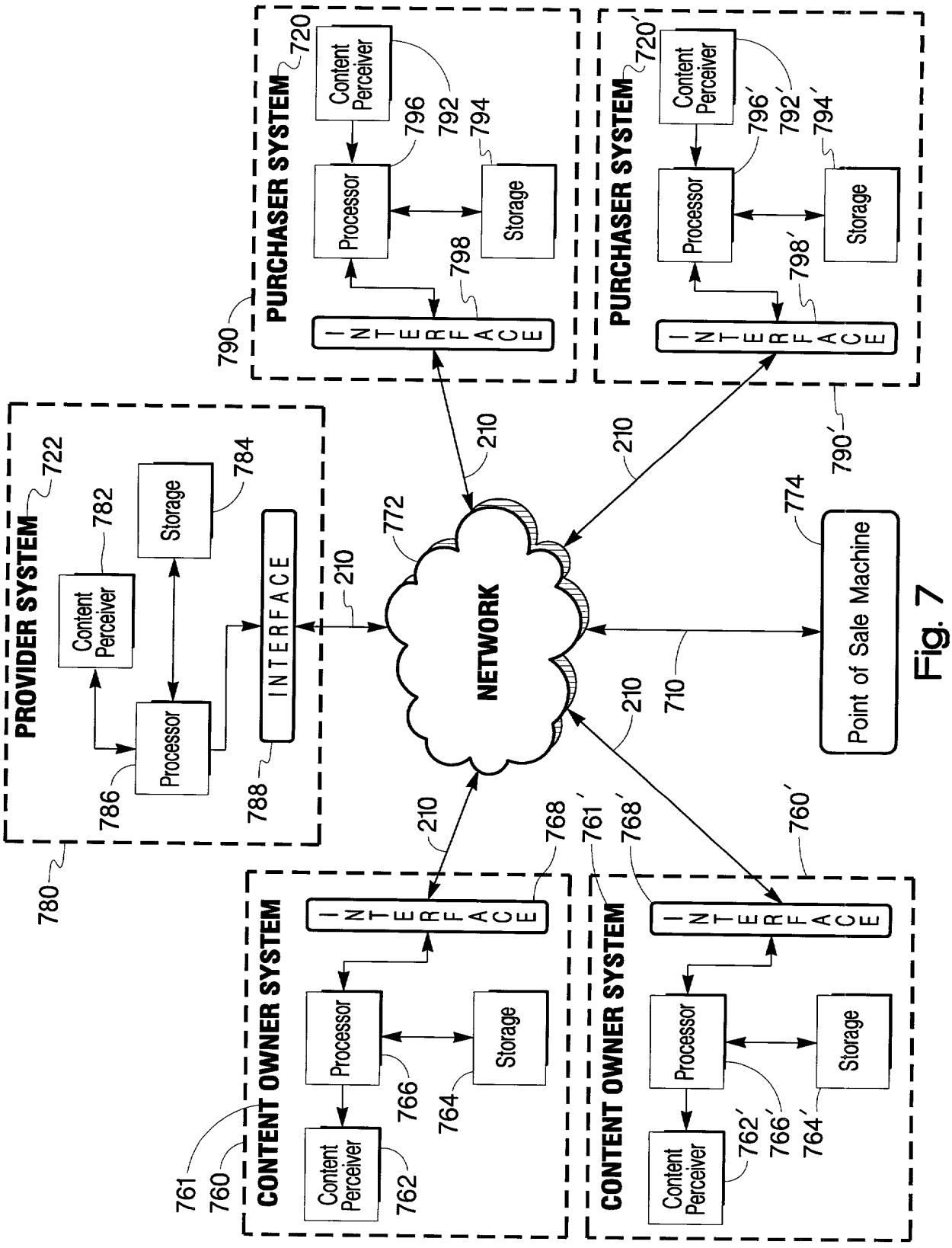
PURCHASER SYSTEM
720
Content Perceiver
796
792
794
Processor
Storage
798
INTERFACE
790
PURCHASER SYSTEM
720'
Content Perceiver
796'
792'
794'
Processor
Storage
798'
INTERFACE
790'
PROVIDER SYSTEM
722
782
Content Perceiver
Storage
784
Processor
786
INTERFACE
788
780
210
NETWORK
772
774
Point of Sale Machine
710
CONTENT OWNER SYSTEM
761
760
Content Perceiver
762
Processor
766
Storage
764
INTERFACE
768
CONTENT OWNER SYSTEM
761'
760'
Content Perceiver
762'
Processor
766'
Storage
764'
INTERFACE
768'

Fig. 7

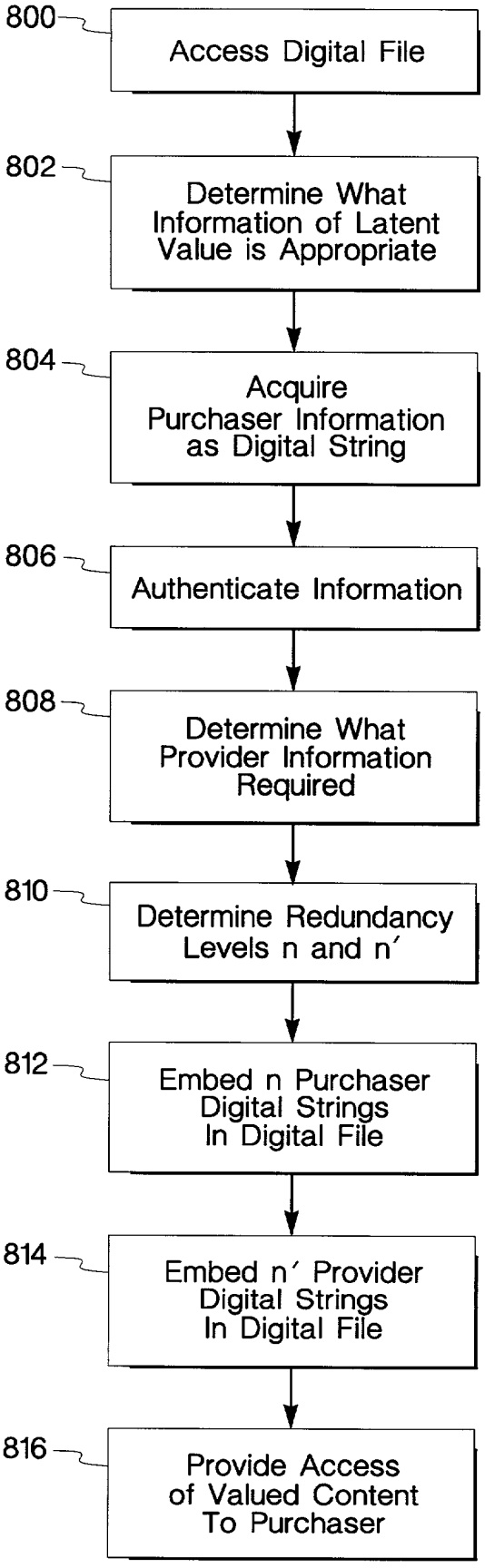

Fig. 8

Patent Application Publication

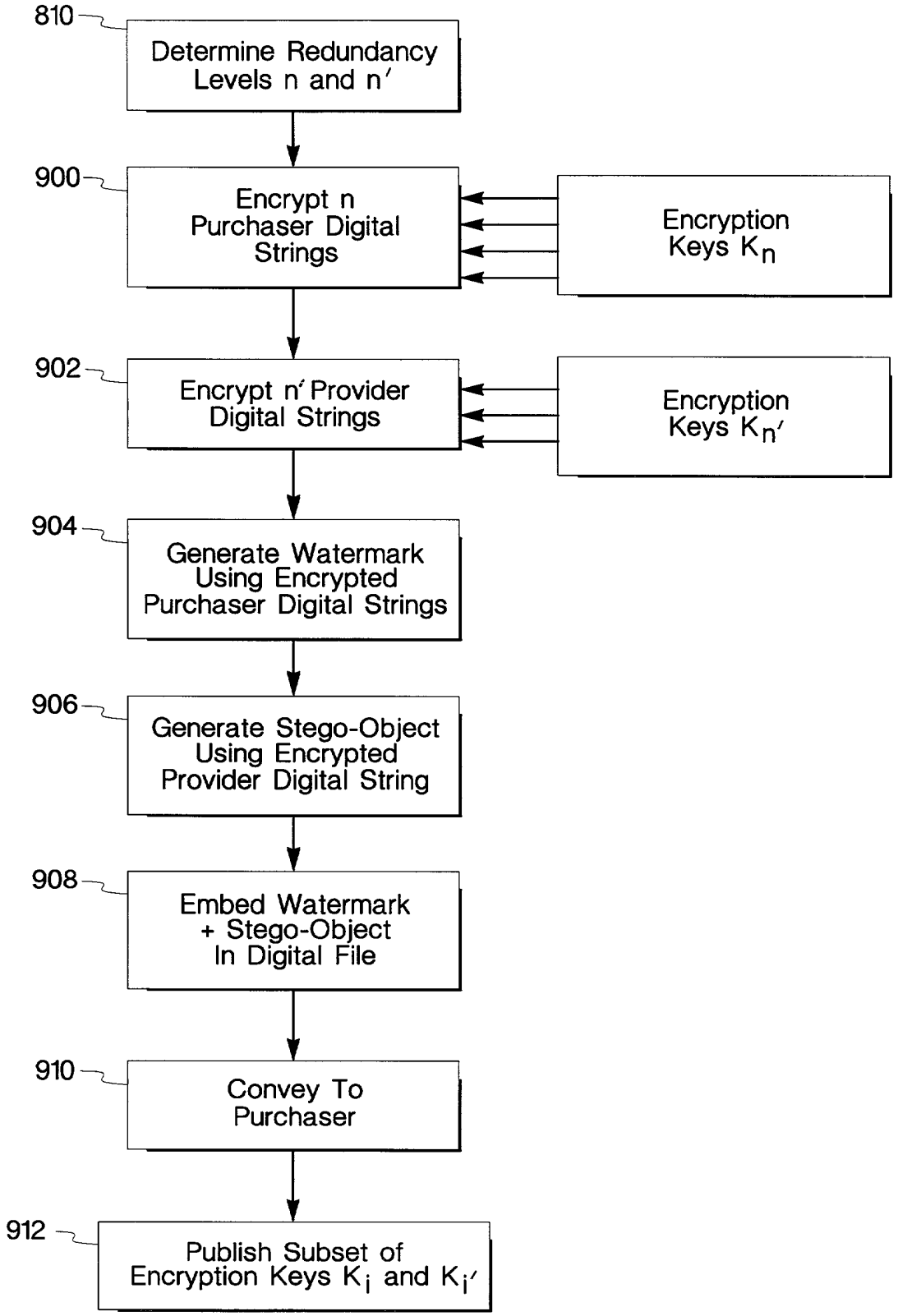
810
Determine Redundancy Levels n and n′
900
Encrypt n Purchaser Digital Strings
Encryption Keys K_n
902
Encrypt n′ Provider Digital Strings
Encryption Keys $K_{n'}$
904
Generate Watermark Using Encrypted Purchaser Digital Strings
906
Generate Stego-Object Using Encrypted Provider Digital String
908
Embed Watermark + Stego-Object In Digital File
910
Convey To Purchaser
912
Publish Subset of Encryption Keys K_i and $K_{i'}$

Fig. 9